

Application No. 10/702,194
Prelim. Amdt. dated October 10, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (original): An apparatus comprising:

a transabdominal tube having a proximal end portion adapted to be inserted into the upper digestive system of a patient and a distal end portion adapted to extend externally from the patient; and

a pump attachable to the tube for removing partially digested food from the upper digestive system of the patient:

Claim 2 (original): The apparatus of claim 1, wherein the pump is attachable to the distal end portion of the tube.

Claim 3 (original): The apparatus of claim 1, wherein the pump is removable from the tube and comprises at least one of a cylindrical pump, a bulb pump, and a syringe.

Claim 4 (original): The apparatus of claim 3, wherein the pump is automated and the apparatus further comprises a control section to activate the pump.

Claim 5 (original): The apparatus of claim 4, wherein:

the control section comprises sensors which detect at least one of a volume of the removed food and a biochemical/nutritional status of the patient; and

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the control section deactivates the pump when one of (i) the detected volume exceeds preset parameters within a given time and (ii) the detected biochemical/nutritional status exceeds preset parameters.

Claim 6 (original): The apparatus of claim 5, wherein control section transmits at least one of the detected volume and the detected biochemical/nutritional status to a health care provider.

Claim 7 (original): The apparatus of claim 6, wherein the control section records detected information.

Claim 8 (original): The apparatus of claim 3, wherein the pump is manually operable.

Claim 9 (original): The apparatus of claim 1, further comprising a bag adapted to be attached to the pump; and wherein the removed food is pumped into the bag.

Claim 10 (original): The apparatus of claim 1, further comprising a cap for plugging the distal end portion of the tube when the pump is not attached to the tube.

Claim 11 (original): The apparatus of claim 1, further comprising an anchor to hold the tube in the upper digestive system of the patient.

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Claim 12 (original): The apparatus of claim 11, wherein the anchor comprises a balloon anchor coupled to the tube and adapted to be anchored in the upper digestive system of the patient.

Claim 13 (original): The apparatus of claim 12, wherein the balloon anchor is adapted to be variably inflated so as to selectively fill a desired portion of the stomach of the patient.

Claim 14 (original): The apparatus of claim 12, wherein the tube includes an inflation lumen coupled to said balloon for communicating with the interior of the balloon.

Claim 15 (original): The apparatus of claim 1, wherein the tube includes a one way valve adapted to prevent the partially digested food from unintentionally escaping from the tube; and wherein the one way valve is adapted to be opened when the pump is attached to the tube.

Claim 16 (original): A method comprising:

inserting a tube into a patient such that a proximal end portion of the tube is disposed in the upper digestive system of the patient and a distal end portion of the tube extends externally from the patient;

connecting a pump to the distal end portion of the tube; and

controlling the pump to remove partially digested food from the upper digestive system of the patient through the tube.

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Claim 17 (original): The method of claim 16, further comprising:

monitoring at least one of a volume of the pumped food and a biochemical/nutritional status of the patient;

ending the pumping when one of (i) the monitored volume exceeds preset parameters within a given time and (ii) the monitored biochemical/nutritional status exceeds preset parameters.

Claim 18 (original): The method of claim 17, further comprising transmitting at least one of the volume of the pumped food and the biochemical/nutritional status of the patient to a health care provider.

Claim 19 (original): The method of claim 16, further comprising at least one of:

educating the patient to modify caloric intake, lifestyle and food psychology through at least one of an instructor-taught program and an internet program;

regularly testing the patient's blood for electrolytes;

supplementing the patient's diet with vitamins as needed; and

administering medication to prevent gallstone formation as needed.

Claim 20 (original): An apparatus comprising:

a first tube adapted to be inserted into the upper digestive system of a patient;

a second tube adapted to be inserted into the lower digestive system of the patient;

wherein the first and second tubes are adapted to be connected in a subcutaneous tunnel; and

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wherein partially digested food is transported through the first tube and the second tube from the upper digestive system to the lower digestive system of the patient.

Claim 21 (new): A method of limiting absorption of food comprising the steps of:

- (a) positioning a tube that passes through a patient's abdominal wall into an upper digestive system of the patient;
 - (b) allowing the patient to ingest food;
 - (c) extracting the food from the upper digestive system of the patient through the tube after the patient has ingested the food; and
 - (d) repeating steps (b) and (c) until a desired weight loss is attained,
- wherein the food that has been extracted in step (c) is not reintroduced into the patient.

Claim 22 (new): The method of claim 21, wherein the tube is inserted by percutaneous endoscopic, radiological or surgical methods.

Claim 23 (new): The method of claim 21, wherein the tube is inserted into the patient's stomach.

Claim 24 (new): The method of claim 21, wherein in step (c), the food is extracted by pumping the food out of the upper digestive system through the tube.

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Claim 25 (new): The method of claim 21, further comprising the step of monitoring how much food is extracted in step (c).

Claim 26 (new): The method of claim 21, further comprising the step of monitoring the patient's biochemical/nutritional status and the weight loss attained.

Claim 27 (new): The method of claim 21, further comprising the step of removing the tube when the desired weight loss is attained.

Claim 28 (new): The method of claim 21, further comprising the step of removing the tube (i) by pulling the tube out of the patient using traction, (ii) by endoscopy or (iii) by surgery.

Claim 29 (new): The method of claim 21, further comprising the steps of:

- (e) educating the patient to modify caloric intake and lifestyle;
- (f) regularly testing the patient's blood for electrolytes;
- (g) supplementing the patient's diet with vitamins and minerals as needed; and
- (h) administering medication to the patient to prevent gallstone formation as needed.

Claim 30 (new): A method of limiting absorption of food comprising the steps of:

- (a) introducing a passageway into a patient's upper digestive system such that the passageway passes through the patient's abdominal wall;
- (b) allowing the patient to ingest food;

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- (c) extracting the food from the upper digestive system of the patient through the passageway after the patient has ingested the food; and
 - (d) repeating steps (b) and (c) until a desired weight loss is attained,
- wherein the food that has been extracted in step (c) is not reintroduced into the patient.

Claim 31 (new): A method of achieving or maintaining weight loss in a person having a passageway into the person's upper digestive system that passes through the person's abdominal wall, the method comprising the steps of:

- (a) ingesting food;
 - (b) extracting the food from the upper digestive system of the person through the passageway after the food has been ingested; and
 - (c) repeating steps (a) and (b) until a desired weight loss is attained,
- wherein the food that has been extracted in step (b) is not reintroduced into the person.

Claim 32 (new): A method of treating obesity comprising the steps of:

- (a) positioning a tube that passes through a patient's abdominal wall into an upper digestive system of the patient;
 - (b) allowing the patient to ingest food;
 - (c) extracting the food from the upper digestive system of the patient through the tube after the patient has ingested the food; and
 - (d) repeating steps (b) and (c) until the patient is no longer obese,
- wherein the food that has been extracted in step (c) is not reintroduced into the patient.

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Claim 33 (new): A method of treating obesity comprising the steps of:

- (a) introducing a passageway into a patient's upper digestive system such that the passageway passes through the patient's abdominal wall;
 - (b) allowing the patient to ingest food;
 - (c) extracting the food from the upper digestive system of the patient through the passageway after the patient has ingested the food; and
 - (d) repeating steps (b) and (c) until the patient is no longer obese,
- wherein the food that has been extracted in step (c) is not reintroduced into the patient.

Claim 34 (new): A method of achieving weight loss in an obese person having a passageway into the person's upper digestive system that passes through the person's abdominal wall, the method comprising the steps of:

- (a) ingesting food;
 - (b) extracting the food from the upper digestive system of the person through the passageway after the food has been ingested; and
 - (c) repeating steps (a) and (b) until the person is no longer obese,
- wherein the food that has been extracted in step (b) is not reintroduced into the person.